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Valvular Heart Disease

CARDIAC OUTPUT PREDICTS THE IMPROVEMENT OF RIGHT VENTRICULAR FUNCTION AFTER MITRACLIP IMPLANTATION IN PATIENTS WITH SECONDARY MITRAL REGURGITATION

Poster Contributions
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Background: Pathological right ventricular function (RVF) has great prognostic relevance in patients with secondary mitral regurgitation (SMR). By successfully reducing SMR MitraClip implantation (MCI) has also shown to potentially improve RVF. The aim of this study was to identify basic echocardiographic and/or hemodynamic parameters that can predict improvement of RVF after MCI in patients with SMR.

Methods: 194 patients (pts) with SMR underwent MCI. Out of them, we retrospectively enrolled all consecutive pts with a TAPSE of < 18 mm for whom basic echocardiographic and periprocedural, invasive hemodynamic data were available. MR grading and RVF assessment after MCI were undergone at discharge and after six weeks. Significant RVF improvement was defined by a TAPSE increase of > 3 mm. Echocardiographic and hemodynamic parameters (Table 1) were then tested as predictors of RVF development (t-Test).

Results: 35 out of 89 pts (10 female; age: 71 ± 11 years) had an initial TAPSE of < 18 mm. 6 weeks after MCI TAPSE significantly improved in 8 patients (Group 1), whereas in 27 patients it did not (Group 2). Group 1 showed significantly higher cardiac output, regarding the other parameters there was no significant difference between the two groups (Table 1).

Conclusion: A preserved cardiac output may determine a significant improvement of impaired RVF after MCI in pts with SMR. Basic parameters of left ventricular dysfunction do not predict RVF development after MCI.

Table 1

Parameters	Group 1	Group 2	p-value
Number of pts	8 (23 %)	27 (77%)	-
TAPSE before MCI [mm]	9 ± 1	12 ± 2	-
TAPSE 6 we post MCI [mm]	16 ± 1	12 ± 2	-
Left ventricular end-systolic diameter [mm]	63 ± 14	54 ±13	0.09
Left ventricular ejection fraction [%]	26 ± 6	28 ± 7	0.84
SMR reduction [grade]	1.5 ± 0.4	1.3 ± 0.6	0.35
Systolic pulmonary artery pressure [mmHg]	52 ± 13	50 ± 11	0.53
Wedge Pressure [mmHg]	17 ± 6	18 ± 6	0.54
Cardiac output [L/min]	5.8 ± 1.6	4.4 ± 1.2	0.04